



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,358	11/12/2003	Shinichi Fujii	15162/06280	6784
24367	7590	11/01/2007		
SIDLEY AUSTIN LLP 717 NORTH HARWOOD SUITE 3400 DALLAS, TX 75201			EXAMINER DURNFORD GESZVAIN, DILLON	
			ART UNIT 2622	PAPER NUMBER
			MAIL DATE 11/01/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/706,358	FUJII ET AL.	
	Examiner	Art Unit	
	Dillon Durnford-Geszvain	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 10-15 and 17-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10, 11, 13-15 and 17-26 is/are rejected.
- 7) ☒ Claim(s) 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Claims **1-8, 10-15, 17- 26** are pending, claims **1-4, 6, 7, 10, 11, 15** and **17-19** are amended, claims **21-26** are added and claims **9** and **16** are canceled.

Response to Arguments

2. Applicant's arguments with respect to claims **1-5, 8, 13** and **14** have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

3. Claim **1** is objected to because of the following informalities: in line 11 "the time of" should be --a time of--. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
5. Claims **1-8, 10, 11, 13-15** and **17-26** are rejected under 35 U.S.C. 103(a) as being unpatentable over US 2005/0083428 (Ohkawara) in view of US 2003/0174230 (Ide).

As to claim **1**, Ohkawara teaches an image capturing apparatus for capturing image data on the basis of a light image acquired by an optical system (see Fig. 4); a focusing member 122 (see Fig. 4) for achieving focus by moving said optical

system to an infocus position; and

a controller 115 determines a present infocus position from a plurality of pieces of information ([0074]), driving said optical system around a reference position determined on the basis of a prior infocus position (wobbling operation, See Fig. 5 step P402, and [0084]), and moving said optical system to the present infocus position by controlling said focusing member 122, wherein

at a time of loss of a main subject (step P411, [0095]), said controller 115 continues the control in which the present infocus position is determined by driving said optical system around a reference position determined on the basis of a latest infocus position (P402, and note that it starts by wobbling around the prior infocus position, see [0096]) as an extended control state.

What Ohkawara does not explicitly teach is moving a position of a focus area which is set in an image formed by the light image so that the focus area includes a main subject. However, Ide teaches moving a position of a focus area FR in an image (see Fig. 4 and [0065]).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have added moving the focus area position as is done by Ide to the apparatus of Ohkawara as this would allow for capturing an image where the main structure is not located in the center of the image.

As to claim 2, see the rejection of claim 1 and note that the combination of Ohkawara in view of Ide teaches that at the time of loss of the main subject, said

controller continuously uses a focus area in which the latest infocus position is obtained, as action is required by a user to move the focus area (see [0065] of Ide).

As to claim 3, see the rejection of claim 1 and note that the combination of Ohkawara and Ide teaches that at the time of loss of the main subject said controller specifies an area of which image information is similar to image information of the focus area in which the latest infocus position is obtained, and uses the focus area specified (see [0094] of Ohkawara and note that as the focus area of Ide is fixed and the image is tested every frame in Ohkawara to see if the AF has changed, the image would be similar as a subject cannot move out of the focus area faster than the time between frames).

As to claim 4, see the rejection of claim 1 and note that the combination of Ohkawara and Ide further teaches when the main subject cannot be found after continuing to drive said optical system for a predetermined time around the reference position (No at step P403 of Ohkawara), said controller determines a present infocus position irrespective of the reference position on the basis of the latest infocus position (P404 of Ohkawara).

As to claim 5, see the rejection of claim 4 and note that the combination of Ohkawara and Ide further teaches that at the time of determining a present infocus position irrespective of the reference position determined on the basis of the latest

infocus position, said controller uses a focus area in a predetermined default position (see Fig. 4 of Ide and note that the default position is in the center, further note that Ohkawara teaches using a default region for determining focus, see [0073]).

As to claim 6, see the rejection of claim 1 and note that the combination of Ohkawara and Ide further teaches the reference position determined on the basis of the latest infocus position at the time of loss of the main subject is the latest infocus position itself (see Fig. 5 of Ohkawara and note that in step P402 wobbling is performed around the latest infocus position).

As to claim 7, see the rejection of claim 1 and note that the combination of Ohkawara and Ide further teaches the reference position is determined on the basis of the latest infocus position at the time of the main subject loss is determined on the basis of infocus positions at a plurality of time points in the past (note that teaches returning the focus lens to a peak position determined on the basis of a hill climbing operation, see steps P405 and P406, and this corresponds to a reference position based on infocus positions at a plurality of time points).

As to claim 8, see the rejection of claim 1 and note that the combination of Ohkawara and Ide further teaches the plurality of pieces of information in the focus area are obtained by driving said optical system around the reference position is information obtained on both sides of the reference position (see Step P402 of Ohkawara and note

Art Unit: 2622

that it "wobbles" on both sides of the reference position).

As to claim **10**, see the rejection of claim **1** and note that the combination of Ohkawara and Ide further teaches that at the time of loss of the main subject, a wide focus area is used (note that the Examiner is interpreting the focus area defined by Ide as a wide focus area, the claim does not call for the focus area being wider than before the subject was lost).

As to claim **11**, see the rejection of claim **10** and note that the combination of Ohkawara and Ide further teaches that at the time of loss of the main subject said controller specifies an area of which image information is similar to image information of the focus area in which the latest infocus position is obtained, and uses the focus area specified (see [0094] of Ohkawara and note that as the focus area of Ide is fixed and the image is tested every frame in Ohkawara to see if the AF has changed, the image would be similar as a subject cannot move out of the focus area faster than the time between frames), and

when the main subject cannot be found after continuing to drive said optical system for a predetermined time around the reference position (No at step P403 of Ohkawara), said controller determines a present infocus position irrespective of the reference position on the basis of the latest infocus position after the focusing member is forcedly driven to an initial position (P404 of Ohkawara, and note that hill climbing is begun from an initial position in a specified direction).

As to claim **13**, see the rejection of claim **3** and note that the combination of Ohkawara and Ide further teaches the image information is brightness information or color information (note that when the AE mode, brightness, has changed the AF process is begun again).

As to claim **14**, see the rejection of claim **1** and note that the combination of Ohkawara and Ide further teaches a plurality of local focus areas, and the focus area is selected from the local focus areas (note that Ide teaches a near infinite number of local focus areas selected by the four way switch and one of these areas is inherently selected).

As to claim **15**, see the rejection of claim **14** and note that as the focus is checked every frame in Ohkawara the image information cannot change very much from frame to frame and the image information in the previously selected local focus area is similar to the information that was previously in this area and the combination of Ohkawara and Ide would select the previous local area as the user is required to move the local focus area.

As to claim **21**, see the rejection of claim **1** and note that the combination of Ohkawara and Ide further teaches the controller capable of switching between a first control mode of determining the present infocus position from the plurality of pieces of

information in the focus area, obtained by driving said optical system around the reference position determined on the basis of the prior infocus position (wobbling in step P402 of Ohkawra), and a second control mode of determining a present infocus position irrespective of the prior focus position (hill-climbing in step P404), and

wherein at the time of loss of the main subject during control in the first mode, control in the first mode is continued (note that wobbling is first performed after loss of the main subject, see Fig. 5).

As to claim 17, see the rejection of claim 21 and note that the combination of Ohkawara and Ide further teaches the position of the focus area during control is fixed to a position renewed immediately before the time of loss of the main subject (note that the focus area is set by a user and the most recent area would be used during control).

As to claim 18, see the rejection of claim 17 and note that the combination of Ohkawara and Ide further teaches that at the time of loss of the main subject said controller specifies an area of which image information is similar to image information of the focus area in which the latest infocus position is obtained, and uses the focus area specified, and the position of the focus area during control is fixed to a position of a similar area (see [0094] of Ohkawara and note that as the focus area of Ide is fixed and the image is tested every frame in Ohkawara to see if the AF has changed, the image would be similar as a subject cannot move out of the focus area faster than the time between frames).

As to claim **19**, see the rejection of claim **21** and note that the combination of Ohkawara and Ide further teaches that when the main subject cannot be found after continuing to drive said optical system for a predetermined time, the control mode is switched to the second control mode (see Fig. 5 of Ohkawara and note that after the wobbling, if focus is not achieved, the apparatus is switched to hill climbing mode, i.e. the second mode).

As to claim **20**, see the rejection of claim **19** and note that the combination of Ohkawara and Ide further teaches that at the time of determining a present infocus position irrespective of the reference position determined on the basis of the latest infocus position, said controller uses a focus area in a predetermined default position (see Fig. 4 of Ide and note that the default position is in the center, further note that Ohkawara teaches using a default region for determining focus, see [0073]).

As to claim **22**, see the rejection of claim **21** and note that the combination of Ohkawara and Ide further teaches that, in the second control mode, the focusing member is driven for determining the present infocus position after the focusing member is forcedly driven to an initial position (P404 of Ohkawara, and note that hill climbing is begun from an initial position in a specified direction).

Claim **23** corresponds to claim **21** and is rejected on the same grounds.

Claim **24** is a method that corresponds to the apparatus of claim **23** and is rejected on the same grounds.

Claim **25** is a method that corresponds further to the apparatus of claim **23** and is rejected on the same grounds.

As to claim **26**, see the rejection of claim **4** and note that the combination of Ohkawara and Ide further teaches that the focusing member is driven for determining the present infocus position after the focusing member is forcedly driven to an initial position (P404 of Ohkawara, and note that hill climbing is begun from an initial position in a specified direction).

Allowable Subject Matter

6. Claim **12** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: the cited prior art neither anticipates nor renders obvious the claimed limitation of the apparatus of claim **11** where a wide area is subdivided into equal parts and one of those sub-areas having similar image data is selected as a new focus area.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dillon Durnford-Geszvain whose telephone number is (571) 272-2829. The examiner can normally be reached on Monday through Friday 8 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on (571) 272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2622

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Dillon Durnford-Geszvain

10/26/07

A handwritten signature in black ink, appearing to read 'Lin Ye', with a long horizontal stroke extending to the right.

LIN YE
SUPERVISORY PATENT EXAMINER